



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/521,615

02/09/2006

Peter Rogall

129494-4

4111

7788

7590

02/06/2009

GE ENERGY GENERAL ELECTRIC

C/O ERNEST G. CUSICK

ONE RIVER ROAD, BLD. 43, ROOM 225

SCHENECTADY, NY 12345

EXAMINER

KERSHTEYN, IGOR

ART UNIT

PAPER NUMBER

3745

MAIL DATE

DELIVERY MODE

02/06/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/521,615	Applicant(s) ROGALL ET AL.	
	Examiner Igor Kershteyn	Art Unit 3745	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 June 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4, 6, 10-15 and 17-19 is/are rejected.
- 7) ☒ Claim(s) 5, 7-9, 16 and 20 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 January 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>6/16/08, 1/12/09</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

Applicant's arguments filed 06/16/2008 have been fully considered but they are not persuasive.

With respect to reference to Scholtz, Applicant generally states that “bearing ring 24 of the present invention is fixed to front flange 42, and bearing ring 22 is fixed to rotor hub 10. In addition, the second bearing ring 22 of the present invention is supported on the first bearing ring 24. In contrast, the second bearing ring 12 of Scholz et al. '923 is not supported on the first bearing ring 11, as they are substantially axially spaced away from each other.” This statement is not agreed with because each of the bearings 11 and 12 consists of two rings (not numbered separately), where the inner one is fixed to the support arrangement and the outer one is fixed to the hub.

With respect to Schoo et al., Applicant generally states that “A disadvantage of the Schoo et al. '673 device is that operational shearing and tilting moments are absorbed by inner bearing ring 7 and transferred to the gearbox via housing 15. In the present invention, the weight of the hub as well as operational shearing and tilting moments are substantially absorbed by outer bearing ring 24, whereas torque is transmitted via inner bearing ring 22. The bearing rings of the present invention also enable maintenance staff to pass through openings in one of the bearing rings (22 or 24) to enable safe transit into the hub 10. This type of access for maintenance staff is not possible in the device of Schoo et al. '673.” This statement lacks arguments of structural differences between the claimed arrangement and arrangement of Schoo.

With respect to reference to Schoo (DE19916454A1) Applicant generally states that " In Figure 2 of Schoo '454, the two bearings 21 are axially spaced from one another and do not rotate against each other. Bearings 21 may appear to be co-axial, but they are not substantially co-radial so that they can rotate against each other." This statement is not agreed with because each of the bearings 21 consists of two rings (not numbered separately), where the inner one is fixed to the support arrangement and the outer one is fixed to the hub. Eventhough Schoo does not show the two rings in the figure, in column 2, lines 63-68, Schoo recites " The base 10 of input stage 4 also accommodates the two large roller bearings 21 that support transmission housing 20 and hence hub 2 as well. Roller bearings 21 transmit all the wind forces acting on blades 3 to generator housing 21. Housing 21 itself is also provided with a foot 24 that screws onto azimuth bearing 7, transmitting all the forces directly into mast 27." It is well known to a person of ordinary skill in the art, that ordinary roll bearings include two rings.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-3, 6, 13, 14, 17, and 18 are rejected under 35 U.S.C. 102(b) as being anticipated by Scholz et al. (4,871,923).

In figures 1-3, Scholz et al. teach a wind power plant having a rotor 1 which is rotatably supported with respect to a rotor axis by means of a bearing arrangement 11,12,29 and has a rotor blade 1 fixed to a rotor hub and extending therefrom radially outwardly, with respect to the rotor axis, characterized in that said bearing arrangement comprises a first bearing ring 11,12,29 being fixed to a support arrangement 3 in a torque-proof manner and disposed coaxially with respect to said rotor axis, and a second bearing ring 11,12,29 being rotatably, with respect to said rotor axis, supported on said first bearing ring 11,12,29 and fixed to said rotor hub 2.

Claims 1-4, 6, 13, 14, 15, 17, 18, and 19 are rejected under 35 U.S.C. 102(b) as being anticipated by Schoo et al. (6,232,673).

In figures 1-6, Schoo et al. teach a wind power plant having a rotor which is rotatably supported with respect to a rotor axis by means of a bearing arrangement 3 and has a rotor blade (inherently) fixed to a rotor hub 2 and extending therefrom radially outwardly, with respect to the rotor axis, characterized in that said bearing arrangement 3 comprises a first bearing ring 6 being fixed to a support arrangement 4 in a torque-proof manner and disposed coaxially with respect to said rotor axis, and a second bearing ring 7 being rotatably, with respect to said rotor axis, supported on said first bearing ring 6 and fixed to said rotor hub 2.

Claims 1-3, 6, 10, 12, 13, 14, 17, and 18 are rejected under 35 U.S.C. 102(b) as being anticipated by DE19916454A1.

In figure 2, '454 teaches a wind power plant having a rotor 1 which is rotatably supported with respect to a rotor axis by means of a bearing arrangement 21 and has a rotor blade 3 fixed to a rotor hub 2 and extending therefrom radially outwardly, with respect to the rotor axis, characterized in that said bearing arrangement 21 comprises a first bearing ring (inherently) being fixed to a support arrangement 10 in a torque-proof manner and disposed coaxially with respect to said rotor axis, and a second bearing ring (inherently) being rotatably, with respect to said rotor axis, supported on said first bearing ring and fixed to said rotor hub 2.

Claims 1-3, 6, 10, 11, 13, 14, 17, and 18 are rejected under 35 U.S.C. 102(b) as being anticipated by Shin (5,876,181).

In figure 3, Shin teaches a wind power plant having a rotor 100 which is rotatably supported with respect to a rotor axis by means of a bearing arrangement (not numbered) and has a rotor blade 110 fixed to a rotor hub (not numbered) and extending therefrom radially outwardly, with respect to the rotor axis, characterized in that said bearing arrangement comprises a first bearing ring (not numbered) being fixed to a support arrangement (300) in a torque-proof manner and disposed coaxially with respect to said rotor axis, and a second bearing ring (not numbered) being rotatably, with respect to said rotor axis, supported on said first bearing ring and fixed to said rotor hub, at least one rotor blade is fixed to the rotor hub in a manner so that it can be rotated about its longitudinal axis.

Allowable Subject Matter

Claims 5, 7-9, 16, and 20 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Contact information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Kershteyn whose telephone number is **(571)272-4817**. The examiner can be reached on Monday-Friday from 8:00 a.m. to 4:30 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Look, can be reached on **(571)272-4820**. The fax number is 571-273-8300.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308 0861.

/Igor Kershteyn/
Primary Examiner, Art Unit 3745